

1. Course Name	
Applied Physiology	
2. Course Code	
3. Semester / Year	
Semester	
4. Description Preparation Date	
28/11/2025	
5. Available Attendance Forms	
Weekly (Theory: 2 hours, Practically: 2 hours)	
6. Number of Credit Hours (Total) / Number of Units (Total)	
Theory: (30) Hours Practically: (30) Hours Total: (60) Hours Total Units: 6	
7. Course administrator's name (mention all, if more than one name)	
Name: Suha Adel Qasim Email: Adel.abas@muc.edu.iq	
8. Course Objectives	
Course Objectives	First - Cognitive Objectives: To enable students to understand the basic concepts of human physiology and the functions of body systems, to explain the mechanisms of homeostasis, to link the relationship between structure and function in organs, to explain the physiological changes associated with pathological conditions, and to establish a scientific basis for their subsequent courses. Second - Skill-based objectives: To train students to perform and measure basic physiological tests such as blood pressure, pulse, electrocardiogram, and respiratory efficiency, and to develop practical analysis and teamwork skills, while adhering to safety procedures within the laboratory. Third - Behavioral and Value-Based Objectives: Instilling discipline and professional ethics, developing responsibility and accuracy in work, encouraging critical thinking and scientific research, enhancing self-confidence, and motivating students to serve the community by employing their knowledge in supporting the health sector.
9. Teaching and Learning Strategies	
Strategy	1. Delivering theoretical and practical lectures on the course content. 2. Employing discussion and question-and-answer sessions in the classroom to foster dialogue. 3. Sharing YouTube videos to facilitate explanation of the material.

4. Daily assessment, weekly assessment, term assessment, objective questions, general knowledge questions, and practical exams.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
(First Semester)					
1	Th.:2H Pr.: 2H	Cardiovascular System	Electrical Components and Activity of the Heart	Lect. & Lab.	Exam & Quiz
2	Th.:2H Pr.: 2H	Cardiovascular System	The Cardiac Action Potential in Ventricular Muscle and Pacemaker Tissues	Lect. & Lab.	Exam & Quiz
3	Th.:2H Pr.: 2H	Cardiovascular System	Contractile Cardiomyocytes and Excitation-Contraction Coupling	Lect. & Lab.	Exam & Quiz
4	Th.:2H Pr.: 2H	Cardiovascular System	ECG and Arrhythmia	Lect. & Lab.	Exam & Quiz
5	Th.:2H Pr.: 2H	Cardiovascular System	Cardiac Cycle	Lect. & Lab.	Exam & Quiz
6	Th.:2H Pr.: 2H	Cardiovascular System	Heart Sound and Waveforms generated during Cardiac Cycle	Lect. & Lab.	Exam & Quiz
7	Th.:2H Pr.: 2H	Cardiovascular System	The Left Ventricle Pressure-Volume Loop	Lect. & Lab.	Exam & Quiz
8	Th.:2H Pr.: 2H	Cardiovascular System	Cardiac Innervation and Control of Heart Rate	Lect. & Lab.	Exam & Quiz
9	Th.:2H Pr.: 2H	Cardiovascular System	Cardiac Reflexes	Lect. & Lab.	Exam & Quiz
10	Th.:2H Pr.: 2H	Cardiovascular System	Systemic Circulation	Lect. & Lab.	Exam & Quiz
11	Th.:2H Pr.: 2H	Cardiovascular System	Blood Pressure Regulation	Lect. & Lab.	Exam & Quiz
12	Th.:2H Pr.: 2H	Cardiovascular System	Physiology of Microcirculation (Starling Law of Capillary)	Lect. & Lab.	Exam & Quiz
13	Th.:2H Pr.: 2H	Cardiovascular System	Venous Circulation and Venous Return	Lect. & Lab.	Exam & Quiz
14	Th.:2H Pr.: 2H	Cardiovascular System	Coronary Circulation	Lect. & Lab.	Exam & Quiz
15	Th.:2H Pr.: 2H	Lungs and Respiratory System	Spirometry and Lung Volumes	Lect. & Lab.	Exam & Quiz
(Second Semester)					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	Th.:2H	Lungs and	Lung Mechanics	Lect. &	Exam &

	Pr.: 2H	Respiratory System	(Compliance, Resistant)	Lab.	Quiz
2	Th.:2H Pr.: 2H	Lungs and Respiratory System	Ventilation Perfusion	Lect. & Lab.	Exam & Quiz
3	Th.:2H Pr.: 2H	Lungs and Respiratory System	Preoxygenation, Apneic Oxygenation and Diffusion Hypoxia	Lect. & Lab.	Exam & Quiz
4	Th.:2H Pr.: 2H	Lungs and Respiratory System	Transport of Gases(O ₂ , CO ₂)	Lect. & Lab.	Exam & Quiz
5	Th.:2H Pr.: 2H	Lungs and Respiratory System	Systemic Effect of Hypoxia and Hyperoxia	Lect. & Lab.	Exam & Quiz
6	Th.:2H Pr.: 2H	Lungs and Respiratory System	Control of Ventilation	Lect. & Lab.	Exam & Quiz
7	Th.:2H Pr.: 2H	Lungs and Respiratory System	Non Respiratory Function of Lung	Lect. & Lab.	Exam & Quiz
8	Th.:2H Pr.: 2H	Smoking	Preoperative Smoking and Physiological Effects of Cessation of Smoking	Lect. & Lab.	Exam & Quiz
9	Th.:2H Pr.: 2H	Thermoregulatory	Thermoregulatory Response to Prevent Hypothermia and Hyperthermia	Lect. & Lab.	Exam & Quiz
10	Th.:2H Pr.: 2H	Heat Loss during Anaesthesia	Heat Loss during Anaesthesia	Lect. & Lab.	Exam & Quiz
11	Th.:2H Pr.: 2H	Body Fluids and Electrolytes	Body Fluids and Electrolytes	Lect. & Lab.	Exam & Quiz
12	Th.:2H Pr.: 2H	Vomiting and Dehydration	Vomiting and Dehydration	Lect. & Lab.	Exam & Quiz
13	Th.:2H Pr.: 2H	Acid Base Balance	Acid Base Balance	Lect. & Lab.	Exam & Quiz
14	Th.:2H Pr.: 2H	Cerebral Physiology	Cerebral Physiology	Lect. & Lab.	Exam & Quiz
15	Th.:2H Pr.: 2H	Differences between Child and Adult	Physiological Differences between Child and Adult in General	Lect. & Lab.	Exam & Quiz

11. Course Evaluation

The grade distribution is as follows:

Assessment: Theory 25 marks, Practical 15 marks

Final exam: Theory 35 marks, Practical 25 marks

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Fundamentals of Anatomy and Physiology For Nursing and Healthcare Students Second Edition Edited by Ian Peate EN(G),
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	RGN, DipN (Lond) RNT, BEd (Hons) MA (Lond) LLM, Muralitharan Nair SRN, RMN, DipN, (Lond) RNT, Cert Ed, BSc (Hons) MSc (Surrey), Cert in Counselling, FHEA
Main references (sources)	Medical Physiology for Undergraduate Students, Indu Khurana Senior Professor, Department of Physiology, Postgraduate Institute of Medical Sciences, University of Health Sciences, Rohtak, India
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Internet Website

Course Description Form